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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,138	02/11/2004	Lincoln Aldrich Augustus		5113

7590  
Lincoln A. Augustus  
Apt D608  
496 NW 165th Street Road  
Miami, FL 33169

06/13/2007

EXAMINER
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DUFFY, DAVID W

ART UNIT	PAPER NUMBER
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3714

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/776,138	Applicant(s) AUGUSTUS, LINCOLN ALDRICH	
	Examiner David W. Duffy	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "170" has been used to designate both relay contacts and a transistor. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because the connection dots of figures 13 and 14 are not visible enough to determine wiring layout and the connecting line from element 142 to 144 is incomplete. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 64, 86, 151. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "shiftable drive member" is recited in claims 2, 6 and 17 but is not defined or included in the specification.

5. The disclosure is objected to because of the following informalities: Par. 9: "a electrical" should be "an electrical". "and controlling the operation of the clutch to start and stop the clutch using the cycle start, mid-cycle cycle stop and release signals" is grammatically awkward, suggested correction is, "and controlling the operation of the clutch by using the cycle start, mid-cycle cycle stop and release signals to start and stop the clutch." Pars. 11, 13, 14: "provide apparatus" should be "provide an apparatus". Par. 41: "2:2 shaft" appears to actually be "2:1 shaft" as noted later in the same paragraph. Par. 47: "cushion27" should be "cushion 27"

Appropriate correction is required.

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

7. Claims 14-25 are objected to because of the following informalities: Claim 14 should be numbered claim 13 and subsequently all succeeding claims should also be renumbered. Appropriate correction is required.

8. Claim 1 is objected to because of the following informalities: "first, second and third" is incomplete. Suggested correction is "first, second and third switches".

Appropriate correction is required.

9. Claim 10 is objected to because of the following informalities: "operative produce" is grammatically incorrect. Suggested correction is "operative to produce".

Appropriate correction is required.

10. Claim 21 is objected to because of the following informalities: "(D) controlling the operation of the clutch to start and stop the clutch using the cycle start, mid-cycle cycle stop and release signals" is grammatically awkward. Suggested correction is, "(D) controlling the operation of the clutch by using the cycle start, mid-cycle cycle stop and release signals to start and stop the clutch." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 2-4, 6, 7, 9, 17, 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claims 2, 6 and 17 recite the limitation "shiftable drive member" which does not occur in the specification and examiner is unable to determine what is described by this limitation and therefore the claims will not be examined on the merits. Claims 3, 4, 7, 9, 18 and 20 depend from claims 2, 6 or 17 and subsequently will not be examined on the merits.

14. Claim 3 recites the limitation "the first motor member" in line 1 of the claim.

There is insufficient antecedent basis for this limitation in the claim. As no mention of motor members occurs in the specification, it is not possible to determine what is intended by this claim and therefore not examinable on the merits.

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1, 5, 8, 10-13, 14-16, 19, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burkholder (US 5429554) in view of Tuten '576 et al (US 5437576) and Short (US 3889947).

17. In regards to claims 1 and 5, Burkholder discloses an electronic pinsetter controller (Burkholder: fig 7) with a first switch actuated by the rake to produce a start signal (Burkholder: 5:19-27) where the controller is operable to engage and disengage the clutch (Burkholder: 5:26-27). Burkholder seems to lack a second switch actuated by the detector and a third switch actuated by the turret.

18. In an analogous pinsetter control system, Tuten '576 discloses an electrical pinsetter controller with electrical interlock signals to provide warning signals to the pinsetter controller included out of range indication to prevent the system from crashing into out of position pins (Tuten '576: 4:41-55). One skilled in the art would recognize the advantage of providing electrical interlock signals to an electrical control system.

19. Therefore it would have been obvious to one skilled in the art at the time to combine the electrical interlock sensors of Tuten '576 with the electrical control system of Burkholder to further reduce the mechanical systems of Burkholder thus improving reliability and reducing mechanical complexity.

20. The combination made seems to lack disclosing switches generated by the detector and turret to generate start and stop signals.

21. In an analogous pinsetter system, Short discloses an interlock system that is controlled by the pin detection and turret system to disengage the clutch when the turret does not have sufficient pins and reengaging the clutch when the turret has enough pins (Short: 5:34-55). One skilled in the art would recognize the advantages of ensuring that ten pins are placed when starting a new frame of ten-pin bowling. One skilled in the art would further recognize the advantages of providing the interlock features in electrical form with the other disclosed electrical interlocks of Tuten '576 to provide more control of the system to the electronic controller.

22. Therefore it would have been obvious to one skilled in the art at the time to combine the specific interlock disclosed by Short with the combination of Burkholder and Tuten '576 to provide a more comprehensive electronic control system that is able to fully control the pinsetter.

23. In regards to claim 8, Burkholder discloses a time delay for delaying the generation of the start signal (Burkholder: fig 8, element 218).

24. In regards to claims 10-12 and 14-16, Burkholder discloses an electronic pinsetter controller (Burkholder: fig 7) with a first switch actuated by the rake in



response to the impact of a ball on the pinsetter (Burkholder: 4:61-66) to produce a start signal (Burkholder: 5:19-27) where the controller is operable to engage and disengage the clutch (Burkholder: 5:26-27). Burkholder seems to lack a second switch actuated by the detector and a third switch actuated by the turret.

25. In an analogous pinsetter control system, Tuten '576 discloses an electrical pinsetter controller with electrical interlock signals to provide warning signals to the pinsetter controller included out of range indication to prevent the system from crashing into out of position pins (Tuten '576: 4:41-55). One skilled in the art would recognize the advantage of providing electrical interlock signals to an electrical control system.

26. Therefore it would have been obvious to one skilled in the art at the time to combine the electrical interlock sensors of Tuten '576 with the electrical control system of Burkholder to further reduce the mechanical systems of Burkholder thus improving reliability and reducing mechanical complexity.

27. The combination made seems to lack disclosing switches generated by the detector and turret to generate start and stop signals.

28. In an analogous pinsetter system, Short discloses an interlock system that is controlled by the pin detection and turret system to disengage the clutch when the turret does not have sufficient pins and reengaging the clutch when the turret has enough pins (Short: 5:34-55). One skilled in the art would recognize the advantages of ensuring that ten pins are placed when starting a new frame of ten-pin bowling. One skilled in the art would further recognize the advantages of providing the interlock features in electrical

form with the other disclosed electrical interlocks of Tuten '576 to provide more control of the system to the electronic controller.

29. Therefore it would have been obvious to one skilled in the art at the time to combine the specific interlock disclosed by Short with the combination of Burkholder and Tuten '576 to provide a more comprehensive electronic control system that is able to fully control the pinsetter.

30. In regards to claim 19, Burkholder discloses a time delay for delaying the generation of the start signal (Burkholder: fig 8, element 218).

31. In regards to claim 21 and 24, Burkholder discloses an electronic pinsetter controller (Burkholder: fig 7) with a first switch actuated by the rake in response to the impact of a ball on the pinsetter (Burkholder: 4:61-66) to produce a start signal (Burkholder: 5:19-27) where the controller is operable to engage and disengage the clutch (Burkholder: 5:26-27). Burkholder seems to lack a second switch actuated by the detector and a third switch actuated by the turret.

32. In an analogous pinsetter control system, Tuten '576 discloses an electrical pinsetter controller with electrical interlock signals to provide warning signals to the pinsetter controller included out of range indication to prevent the system from crashing into out of position pins (Tuten '576: 4:41-55). One skilled in the art would recognize the advantage of providing electrical interlock signals to an electrical control system.

33. Therefore it would have been obvious to one skilled in the art at the time to combine the electrical interlock sensors of Tuten '576 with the electrical control system

of Burkholder to further reduce the mechanical systems of Burkholder thus improving reliability and reducing mechanical complexity.

34. The combination made seems to lack disclosing switches generated by the detector and turret to generate start and stop signals.

35. In an analogous pinsetter system, Short discloses an interlock system that is controlled by the pin detection and turret system to disengage the clutch when the turret does not have sufficient pins and reengaging the clutch when the turret has enough pins (Short: 5:34-55). One skilled in the art would recognize the advantages of ensuring that ten pins are placed when starting a new frame of ten-pin bowling. One skilled in the art would further recognize the advantages of providing the interlock features in electrical form with the other disclosed electrical interlocks of Tuten '576 to provide more control of the system to the electronic controller.

36. Therefore it would have been obvious to one skilled in the art at the time to combine the specific interlock disclosed by Short with the combination of Burkholder and Tuten '576 to provide a more comprehensive electronic control system that is able to fully control the pinsetter.

37. In regards to claim 22, Burkholder discloses using switches (Burkholder: fig 7, element 80).

38. In regards to claim 23, Burkholder discloses electrical control of the clutch in response to inputs (Burkholder: 5:19-27).

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39. In regards to claim 25, the combination made does not expressly disclose an actuator moving a reset link. Instead, the combination prevents the pinsetter from moving the initial position.

40. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to reset the system after detection of the out of place pins because applicant has not stated that resetting instead of not moving provides any advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore would have expected the combination made and the applicant's invention to perform equally well at preventing damage to the pinsetter because both systems perform the same function of detecting out of place pins and preventing collision between the pinsetter and the out of place pins.

41. Therefore, it would have been prima facie obvious to modify the combination of Burkholder, Tuten '576 and Short to obtain the invention as specified in claim 25 because such a modification would have been considered mere design consideration which fails to patentably distinguish over the prior art.

### ***Conclusion***

42. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6027411 and 6358155 to Huhne and drawn to pinsetter systems. US 5803819 to Tuten '576 et al. drawn to a solid state pinsetter controller upgrade. US 5902188 to Meniconi drawn to a pin spotter system.

Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F. R. 1.111, including: "The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references. A general allegation that the claims "define a patentable invention" without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, "The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims." Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 II(A), MPEP 2163.06 and MPEP 714.02. The "disclosure" includes the claims, the specification and the drawings.

Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

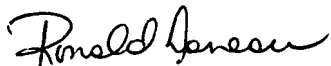
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David W. Duffy whose telephone number is (571) 272-1574. The examiner can normally be reached on M-F 0800-1630.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DWD

  
RONALD LANEAU  
PRIMARY EXAMINER

6/8/07